FIG. 1A

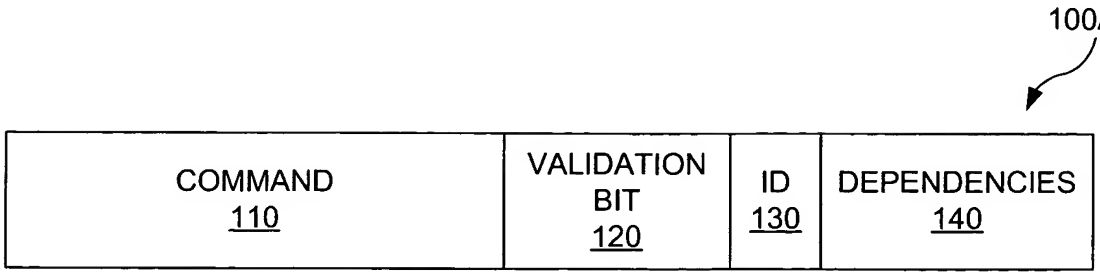

100A
COMMAND
110
VALIDATION
BIT
120
ID
130
DEPENDENCIES
140

FIG. 1B

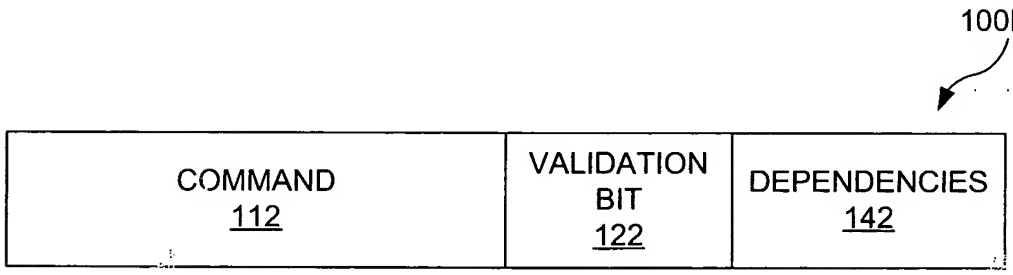

100B
COMMAND
112
VALIDATION
BIT
122
DEPENDENCIES
142

FIG. 2

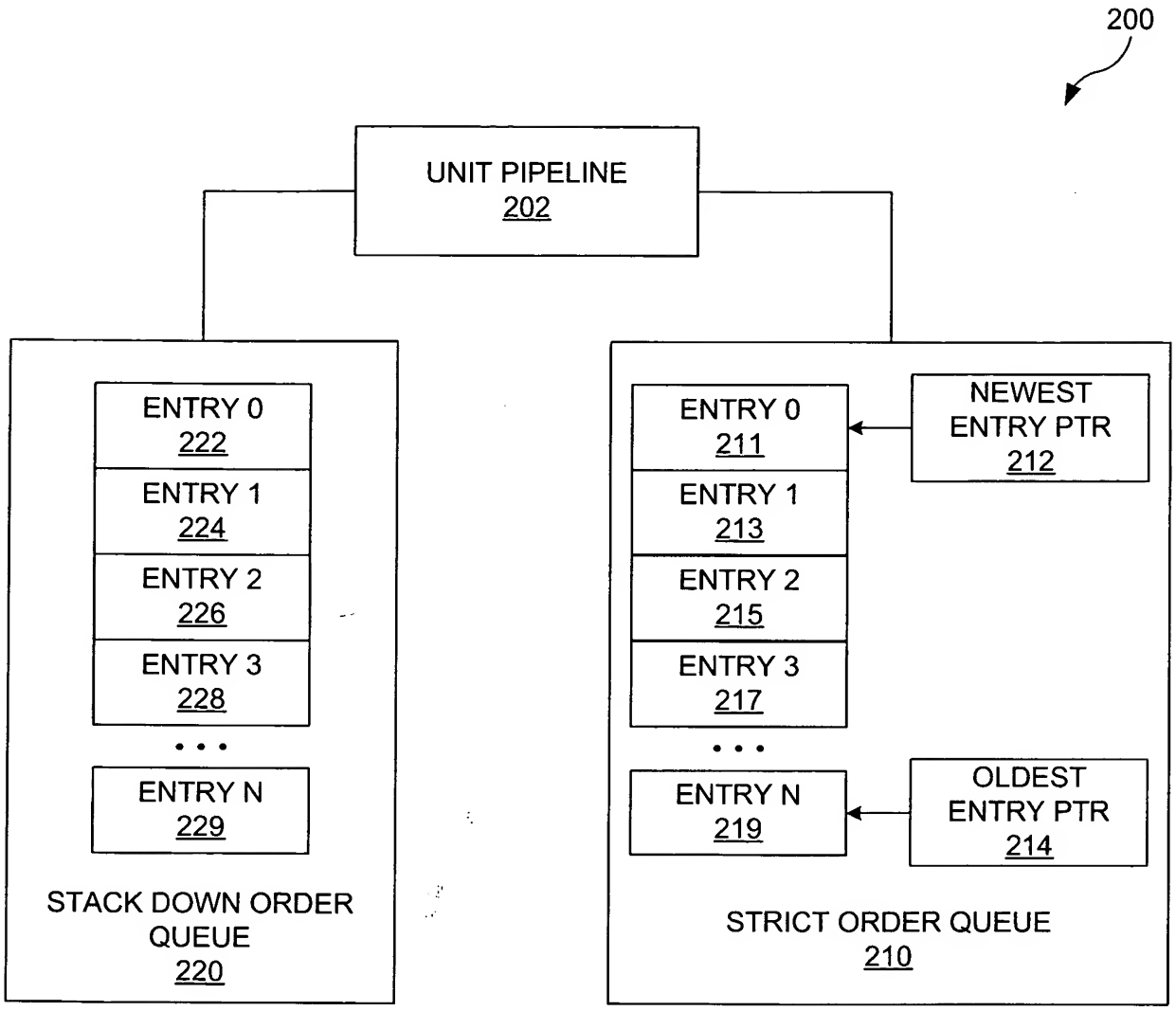

200
UNIT PIPELINE
202
ENTRY 0
222
ENTRY 1
224
ENTRY 2
226
ENTRY 3
228
ENTRY N
229
STACK DOWN ORDER QUEUE
220
ENTRY 0
211
ENTRY 1
213
ENTRY 2
215
ENTRY 3
217
ENTRY N
219
NEWEST ENTRY PTR
212
OLDEST ENTRY PTR
214
STRICT ORDER QUEUE
210

FIG. 3

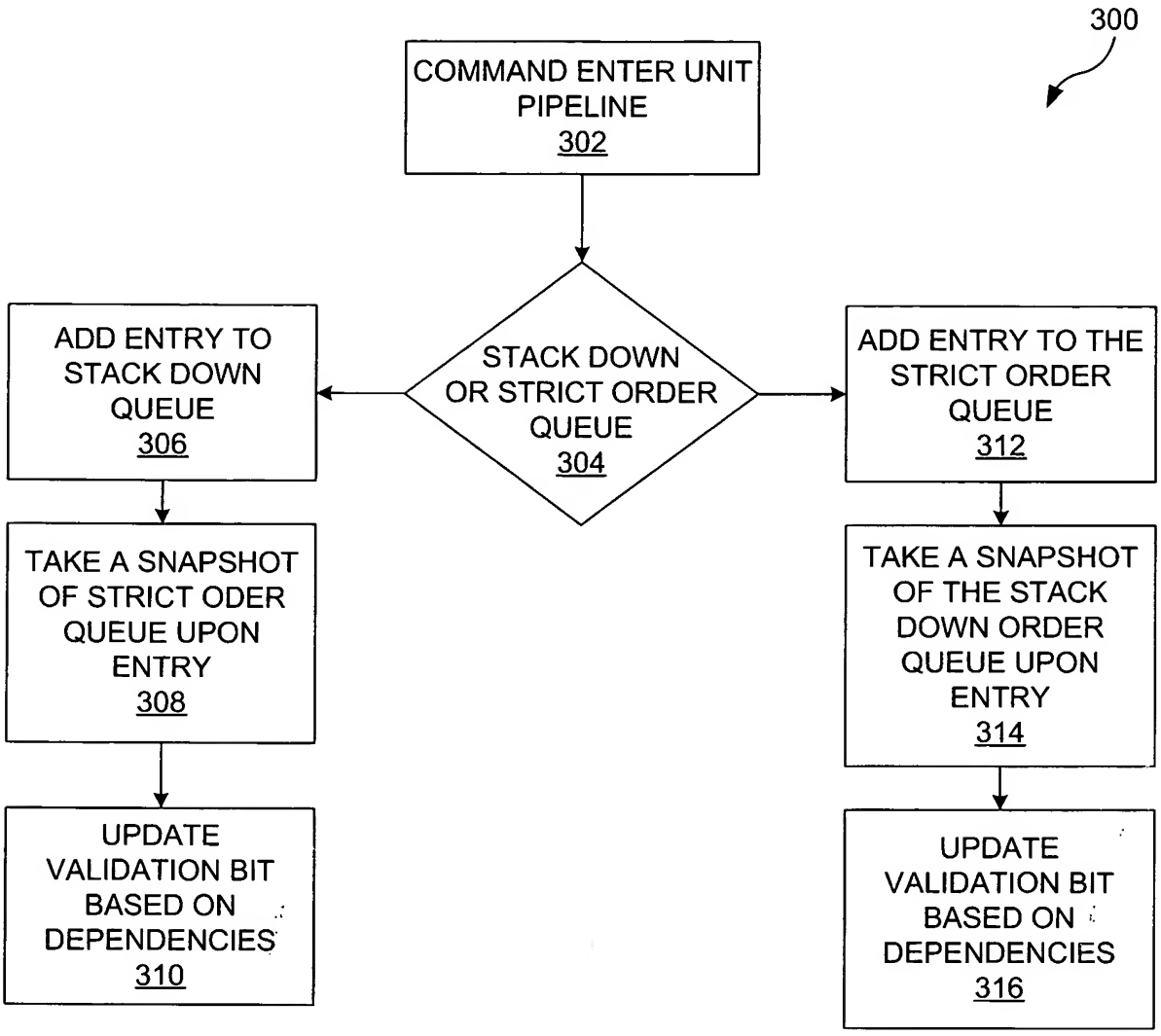
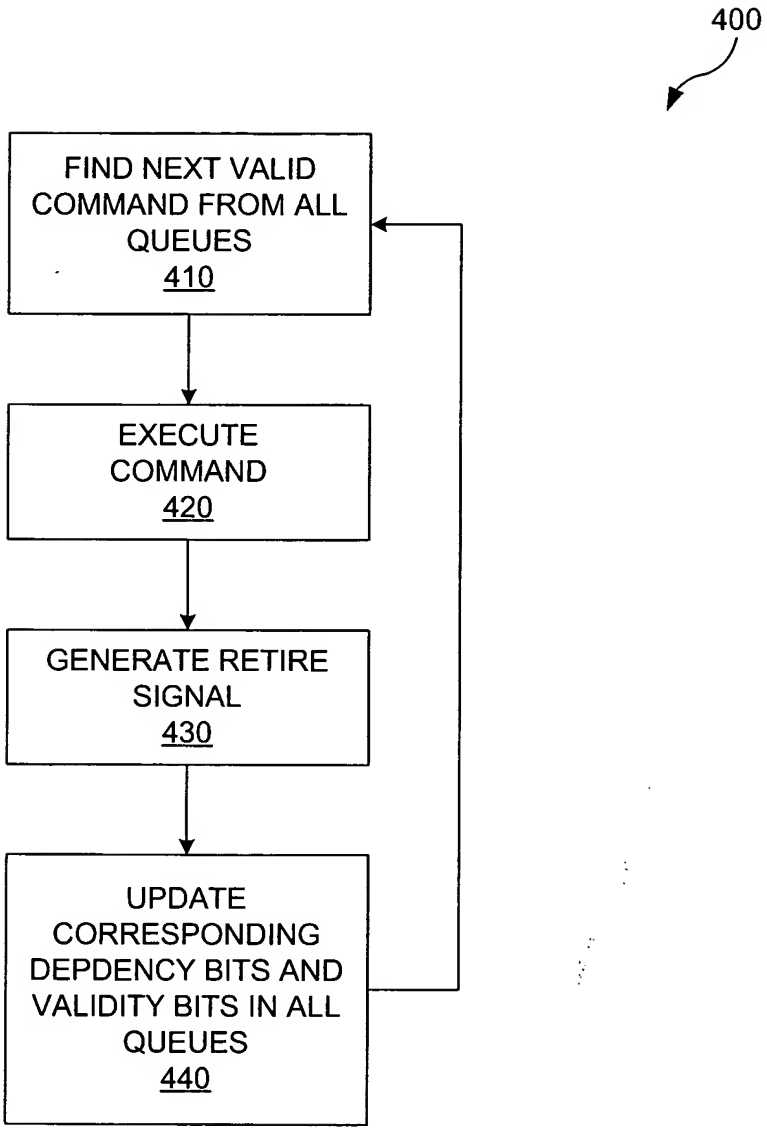

300
COMMAND ENTER UNIT PIPELINE 302
STACK DOWN OR STRICT ORDER QUEUE 304
ADD ENTRY TO STACK DOWN QUEUE 306
TAKE A SNAPSHOT OF STRICT ODER QUEUE UPON ENTRY 308
UPDATE VALIDATION BIT BASED ON DEPENDENCIES 310
ADD ENTRY TO THE STRICT ORDER QUEUE 312
TAKE A SNAPSHOT OF THE STACK DOWN ORDER QUEUE UPON ENTRY 314
UPDATE VALIDATION BIT BASED ON DEPENDENCIES 316

FIG. 4


400
FIND NEXT VALID COMMAND FROM ALL QUEUES
410
EXECUTE COMMAND
420
GENERATE RETIRE SIGNAL
430
UPDATE CORRESPONDING DEPDENCY BITS AND VALIDITY BITS IN ALL QUEUES
440